

Texarkana Wood Preserving Texarkana, Texas

EPA Region 6

EPA ID# TXD008056152
Site ID: 0601695



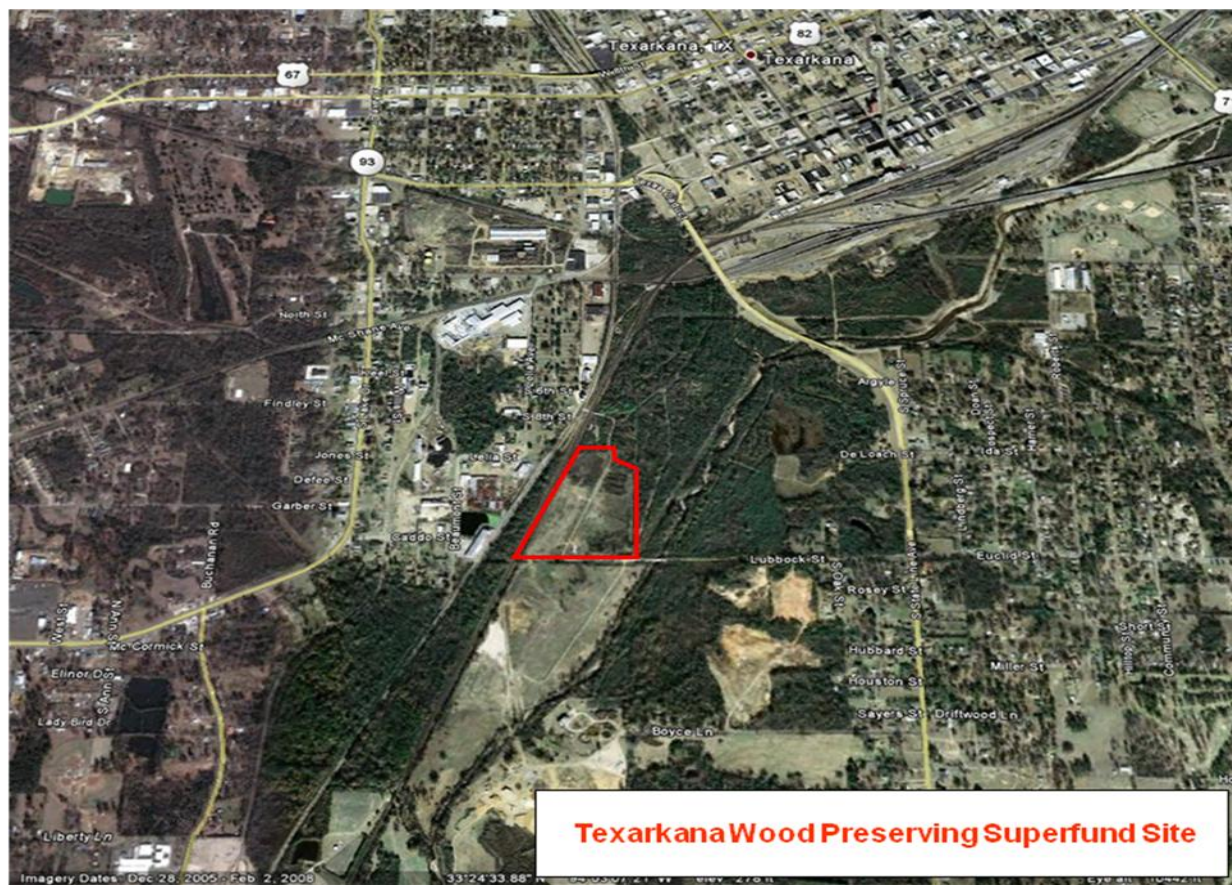
Contact: Charles David Abshire,
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U.S. Congressional District: 4
Updated: November 2013

Background Information

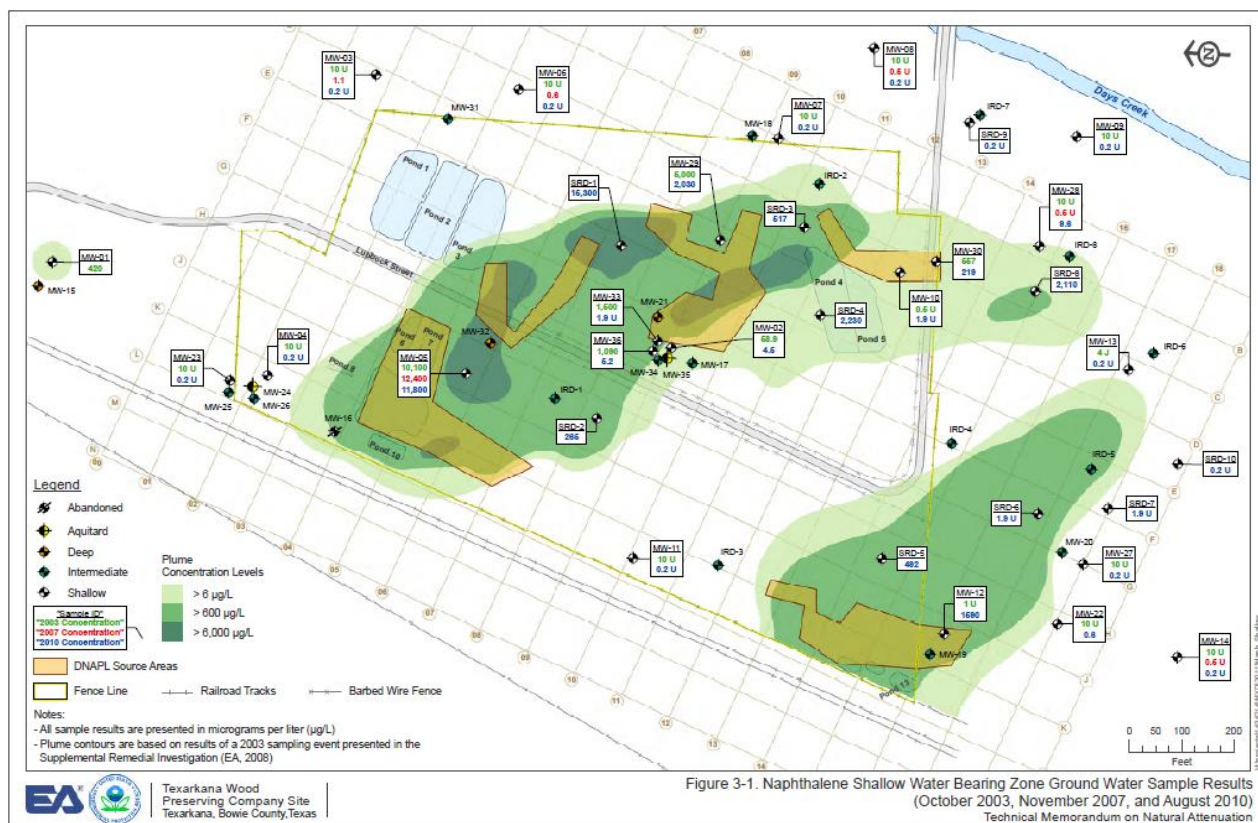
The Site was used for lumber-related activities since the early 1900s. Wood-preserving operations utilizing pentachlorophenol (PCP) and creosote have occurred in the southwestern (began 1961) and northwest (began 1972) portions of the Site. After treatment, wastewater from the creosote and PCP operations was released into a series of three evaporation ponds on the northeast part of the Site. The Site ceased operations and closed during August 1984. EPA conducted five removal actions from December 1986 to October 1990 to address contamination and potential off-site releases from the Site. Creosote in ground water has contaminated ground water; contaminated ground water is within 350 feet of an offsite creek (Days Creek). Contaminated media volumes are: 77,000 cubic yards of soil; 650,000 gallons of Dense Non-aqueous Phase Liquid (DNAPL – source material); and 49,000,000 gallons of shallow ground water.

The Site was listed to the NPL on June 10, 1986. Several remedial investigations were conducted from listing to the most recent in 2010. Investigations found approximately 4-acres of creosote and PCP product (“principal threat” waste) in the shallow aquifer (down to average of 14-feet); and contaminated soils and a ground water plume in the shallow aquifer only.



Current Status

The Environmental Protection Agency (EPA) is funding the investigation and cleanup of this site. The EPA and Texas Commission on Environmental Quality (TCEQ) developed and implemented a remedy, which addressed source material, contaminated soils and protected deep ground water; this remedy is documented in Record of Decision (ROD) Amendment Number 2, which was signed September 14, 2010. EPA completed Remedial Design activities in 2010. ROD Amendment No. 3, which selects a "Monitored Natural Attenuation following solidification/stabilization of the DNAPL (source material) saturated mass" remedy for the shallow contaminated groundwater, was signed on September 26, 2011. Remedial Action (RA - cleanup) activities began September 27, 2011; an Informational Community meeting was held on May 2, 2012 to update the community on cleanup progress and activities. RA construction activities were completed on September 13, 2012. EPA began conducting quarterly ground water sampling in December 2012 to document that the remedy/cleanup is effective; the final quarterly sampling event was completed on August 9, 2013. EPA placed institutional controls (i.e., Restrictions - two Restrictive Covenants, and one Deed Notice) on the property to protect the integrity of the remedy.



Benefits

The completion of the supplemental remedial investigation, risk assessment and chemical oxidation pilot study conducted in the past, allowed EPA to select a remedy to mitigate threats to public health and the environment. The objective of the remedy was to reduce the mobility of contaminants in soils and ground water, to prevent contaminants from moving vertically into deeper aquifers or laterally to Days Creek which will prevent the public's exposure to contaminants. Excavation of contaminated shallow soils, and solidification of the source material (creosote) in ground water, during the 2012 remedial action/cleanup, has removed a large volume of creosote source from delivering dissolved contaminants to the ground water, and therefore, the contaminated ground water/plume should recede onto the Site over time and the creek is protected.

Site Description

Location: Lubbock Street, Texarkana, Texas near the Texas - Arkansas border.
Population: Approximately 200 people live within one-third of a mile of the site.
Setting:
-Nearest residence is 500 feet west of the site.
-Most area drinking water comes from Wright Patman Lake (formerly Lake Texarkana), which is not impacted by the site.
-Former wood preserving operations.
-On-site retention ponds and evaporation ponds.
Hydrology:
-Depth to first water zone - 9 feet.
-Sandy soils in the area.
-Ground water is not used in vicinity of site.
-Confining zones are at ~14 feet and 110 feet.

Wastes and Volumes

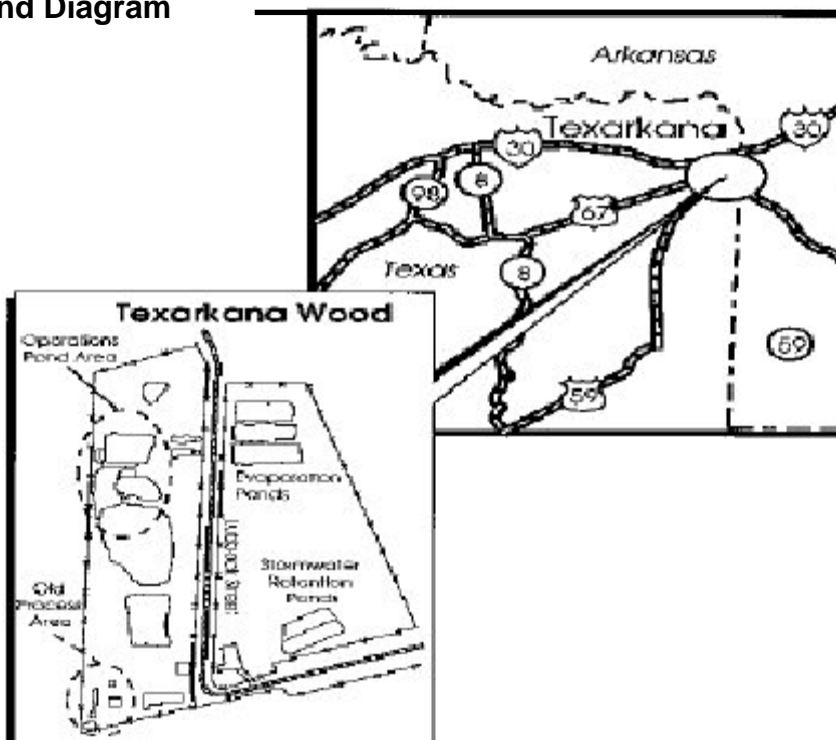
The principal pollutants at the site include polynuclear aromatic hydrocarbons (PAHs) and pentachlorophenol (PCP). Waste volumes at the site are estimated to be 88,920 cubic yards of soil and sludge contaminated with PAHs, PCP, and dioxin, 460,000 gallons of dense non-aqueous phase liquid (DNAPL), and 49,000,000 gallons of contaminated ground water. The primary contaminant driving risk is Benzo(a)pyrene.

Site Assessment and Ranking

NPL LISTING HISTORY

Site HRS Score: 40.19
Proposed Date: 3/29/85
Final Date: 6/10/86
NPL Update: No. 4

Site Map and Diagram



The Remediation Process

Site History:

- Abandoned wood treating facility operated from 1909 to 1984 under various owners.
- Prior removal actions have controlled site runoff and restricted public access.
- During the period from December 1986 to October 1990, the EPA conducted five (5) removal actions to address contamination and potential off-site releases from site.
- On July 8, 1994, the Regional Administrator asked the State environmental agency to let bids received from incineration contractors expire without an award to allow the Congressional Office of Technology Assessment (OTA) and General Accounting Office (GAO) to complete a study of incineration and alternatives for the site. Incineration of contaminated soils at this abandoned creosote site had been selected by the EPA under the Superfund law in 1990. Community outreach efforts and unusually strict operating requirements did not quell objections by some local residents prompting requests from Congress for OTA and GAO studies. As a result, the EPA withdrew the selected remedy.
- During October 1996, the EPA collected contaminated soil samples from the site for soil stabilization and bioremediation bench scale laboratory testing. The EPA used the results of these tests to determine the suitability of several alternative remedies.
- The Texas Natural Resource Conservation Commission (TNRCC)(presently the Texas Commission on Environmental Quality (TCEQ)) awarded a contract in 1997 to improve fencing around the site and to decontaminate and remove existing process equipment and structures. This work was completed in 1997.
- On November 13, 1997, the EPA presented to the community the draft of an Amendment to the Record of Decision proposing that the site be capped and that the ground water remedy be studied further. The 30-day comment period of this Record of Decision closed December 5, 1997. This ROD Amendment was signed on March 13, 1998.
- The State collected additional data on the extent of soil and water contamination and issued a detailed report in March 1999.
- A field pilot study to evaluate the effectiveness of trenches in the collection and removal of Non-Aqueous Phased Liquid (NAPL) was completed in November of 2000. The test indicated that trenches were not the most effective method in collection of NAPLs.
- Eight additional wells were installed in August of 2002 to confirm hydraulic conductivity through pump tests, and to investigate the lateral extent of free product (NAPL) and ground water contamination. The wells found additional NAPL in areas considered NAPL free.
- In August 2003, geoprobe rigs were used to take subsurface cores and install temporary wells to characterize the NAPL free product mass, NAPL residual and dissolved concentrations. In October 2003, ground water sampling was conducted to delineate the lateral extent of dissolved contaminants.
- The subsurface soils and ground water analytical data acquired from the August, October and November 2003 fieldwork was used in numerical models to develop an understanding of the attenuative properties of the contaminated aquifer and to assist in the selection of the most effectiveness remedy.
- EPA completed bench-scale solidification and chemical oxidation treatability tests on soils and ground water collected during the 2003 geoprobe investigation.
- A Chemical Oxidation pilot test was conducted to determine the applicability/effectiveness of Chemical Oxidation in the creosote/pentachlorophenol source and dissolved plume areas. These treatability values were used in ground water computer model simulations to assist in determining if solidification and/or chemical oxidation and Monitored Natural Attenuation (i.e., dissolved contaminants adsorb to natural organics in the soil and the microbes within the soil degrade the contaminants) will be cost effective remedies. The Chemical Oxidation pilot test was completed in October, 2005; the final report, which also contained computer model simulations, was submitted to EPA in July 2006.
- A RI Report, and Human Health and Ecological Risk Assessment Reports were developed from the November 2007 field sampling effort; these reports assisted in developing the Focused

Feasibility Study document, which presented the most appropriate remedial alternatives for this site.

- Human exposure is presently under control due to site access measures; however, remedial action is required to address site contaminants for long term protection. No resident have or do live onsite. Approximately 200 people live within one-third mile of the Site; the nearest residence is 500 feet west of the Site. There are no schools in the immediate area.
- A Public Meeting was held on March 25, 2010, to present the proposed remedy. A ROD Amendment is presently being developed to address site contamination.
- Ready-For-Reuse: This site is not “ready for reuse”. Considering this site was used in the past for industrial purposes, the future site reuse will be industrial/commercial. The ROD Amendment requires Institutional Controls, which require a classification of industrial/commercial in deed notices/restrictions for this site. EPA will apply this restriction during the remedial action.
- ROD Amendment No. 2 was signed by the Region 6 Superfund Division Director on September 14, 2010.
- Several investigations have been conducted to determine nature and extent of risks posed by the site. Investigations conducted were: 1989 Remedial Investigation/Feasibility Study (RI/FS); 1999 soils and ground water sampling, additional monitoring wells (2003), geoprobe investigations (2003), ground water sampling and treatability tests (2004), a chemical oxidation pilot study (2005); and most recently (November 2007), a Supplemental RI and Human Health and Ecological Risk Assessments. The information gathered from past and recent efforts was used in numerical modeling simulations (computer generated ground water flow and contaminant transport over time) to determine if a remedy is needed, define the most appropriate remedy and bring the site to closure. EPA developed the Focused Feasibility Study document, which presented the most effective remedies to address site contaminants.
- EPA completed Remedial Design field activities in 2010.
- A Public meeting was held on August 3, 2011, to present the Proposed Plan/preferred remedy for the shallow contaminated ground water to the public.
- ROD Amendment No. 3, to address contaminated ground water, signed September 26, 2011.
- Monitor Well ground water sampling and plugging and abandonment of unnecessary wells was completed November 16, 2011; Remedial Action field activities (cleanup) began on February 6, 2012, and were completed on September 13, 2012.
- The first quarterly ground water sampling event was conducted on December 3, 2012. The final sampling event was completed on August 9, 2013.
- EPA placed institutional controls (i.e., Restrictions - two Restrictive Covenants, and one Deed Notice) on the property on September 26, 2013 to protect the integrity of the remedy.

• **Health Considerations** _____

- Creosote contaminated soils was addressed by the 2012 remedial action; ground water does present a human health hazard; however, ground water migration is under control following the remedial action.
- Information indicates that no drinking water wells have been or are affected by the contaminated ground water.

Other Environmental Risks:

Contamination of ground water; drainage is to the southeast to Day's Creek; however, the creek is not presently affected by ground water contaminants. Solidification of the source material (creosote) in ground water has removed a large volume of creosote source from delivering dissolved contaminants to the ground water plume, and therefore, the plume should recede onto the Site over time and the creek is protected.

Record of Decision History

- 1) ROD (OU-1) Signed: September 25, 1990 (Source and Shallow Ground Water)
- 2) ROD (OU-2) Signed: September 30, 1993 (Deeper Ground Water)
- 3) ROD Amendment Signed: March 13, 1998 (Revised Source/Soils Remedy)
- 4) ROD Amendment No. 2 signed September 14, 2010 (OU-1 & OU-2 combined into OU-1) (Source, Soils and ground water)

The 1990 ROD was to remediate contaminated Shallow Ground Water by:

Extracting, treating, and injecting the ground water into the shallow aquifer.

The 1990 ROD was to remediate Contaminated Soils by:

Excavation of contaminated soils, on-site thermal destruction, and burial on site (Soil remedy amended in February 1998, which required capping of the soils in-place); the remedy was never implemented because new data indicated that subsurface contamination was more extensive than previous data suggested.

The 1993 ROD was for extraction and treatment of deeper ground water.

The 1998 ROD Amendment was to remediate Contaminated Soils by:

The soil remedy was amended in 1998 to replace excavation of contaminated soils and on-site thermal destruction of contaminated soils with containing contaminated soils beneath a soil cap on-site. This ROD amendment remedy was never implemented because new data indicated that subsurface contamination was more extensive than previous data suggested.

The 2010 ROD Amendment was to remediate Contaminated Soils and Source (creosote) material:

Source (creosote) material in subsurface soils and ground water will be solidified; contaminated soils will be excavated to two feet below surface and consolidated on-site; ground water will be monitored for migration potential to off-site Days Creek.

<u>Other Remedies Considered</u>	<u>Reason Not Chosen</u>
1. Capping	No reduction in volume or toxicity of contaminants.
2. Chemical Treating	Only partially effective.
3. Solidification	Not permanent.
4. Biological Treatment	Only partially effective.
5. Offsite Thermal Destruction	Too costly; transportation risks.
6. "No Action"	Not protective of human health and the environment.

NEW Records of Decision - Amendment No. 2 and No. 3

ROD Amendment No. 2 was signed by the Region 6 Superfund Division Director on September 14, 2010. EPA has amending the 1990 ROD to address contaminated surface soil and source material (creosote), and to monitor the deep ground water; ROD Amendment No. 2 addresses source material with subsurface in-situ solidification/stabilization (S/S); the contaminated soils with excavation two feet below ground surface and on-site consolidation; and the deep ground water with monitoring. The shallow contaminated ground water did not have an actual remedy – only monitor to protect Days Creek surface water from ground water impact; however, solidification of the source material (creosote) in ground water, during the 20012 remedial action, has removed a large volume of creosote source from delivering dissolved contaminants to the ground water plume. EPA collected ground water and biodegradation data to support a ROD Amendment No. 3, which addresses the remediation of the shallow contaminated ground water (i.e., the dissolved plume) with “Monitored Natural Attenuation” following solidification and

stabilization of the saturated source material mass"; ROD Amendment No. 3 was signed on September 26, 2011.

Community Involvement

Community Involvement Plan: Developed 12/87, revised 5/91

Open houses and workshops: 1/88, 6/89, 6/92, 9/92, 1/93, 5/96

Proposed Plan Fact Sheet and Public Meeting: 7/14/90 (Source), 1/93 (Ground Water)

ROD Fact Sheet: 10/90 (Source); 2/93 (Ground water)

Milestone Fact Sheets: 5/88, 11/90, 2/91, 2/93, 6/99 (TNRCC Site Update Newsletter)

Citizens on site mailing list: 1400+ includes Texas and Arkansas residents.

Constituency Interest:

- Site cleared of vegetation in February 1991 in response to local fire officials concerned about potential air releases from grass fires on the site.
- Opposition to incineration remedy by community became very vocal in 1992.
- Arkansas Attorney General filed suit in December 1992 opposing remedy implementation; the suit was dismissed.
- Congressman Chapman requested that incineration not be implemented until after the OTA and GAO complete their study of incineration safety and the alternatives available for remediating the Site.
- Incineration placed on hold pending review by Office of Technology Assessment.
- Incineration replaced with on-site capping remedy in Amended ROD on March 13, 1998.
- General Accounting Office visited the community twice to interview citizens and assess impact of site issues. The EPA studied alternative remedies for suitability.
- Community formed a Community Advisory Group (CAG).
- Site Repository: Texarkana Public Library, Texarkana, TX.
- The community is informed when any new remedial actions are proposed for the site.
- Public Meeting on March 24, 2010, to present the Proposed Plan/proposed remedy, for ROD Amendment No. 2 (creosote source material, and affected surface soils), to the public.
- Public Meeting on August 2, 2011, to present Proposed Plan/proposed remedy, for ROD Amendment No. 3 (ground water) to the public.
- An Informational Community meeting held on May 2, 2012 to update the community on RA cleanup progress and activities.

Technical Assistance Grant

Availability Notice: 1/11/89

Letters of Intent Received

Citizens Against Pollution (CAP) - 10/19/92

Final Application Received: None

Grant Award: N/A

Current Status: Working with citizen groups to develop interest in an application.

Contacts

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State Contact: (TCEQ) Marilyn Long, (PM Superfund Section), 512-239-0761, Mail Code: MC-136

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EPA Prime Contractor: EA Engineering

EPA Toll Free Telephone Number: 1-800-533-3508

Enforcement

PRPs Identified: 14

Viable PRPs: None